Chapter III

Health Status of Mississippi Population

III. Health Status of Mississippi Population

The *State Health Plan* serves as a resource in helping to improve the health status of the people of the state. One of the first steps toward achieving this objective is to establish a base line of data to determine the current health status of the people. No universally accepted definition of "health" exists. The World Health Organization defines health as ... "a state of complete physical, mental, and social well being; not merely the absence of disease or infirmity." This definition implies that everyone, including the ill or disabled, should have the opportunity to live up to his or her own potential.

In assessing of the health status of Mississippians, the *State Health Plan* focuses on mortality, natality, and morbidity factors. Where data are available, the *Plan* contrasts Mississippi data to the United States. The *Plan* also discusses significant variations within the state by age, race, sex, or geographic area. The Office of Health Informatics of the Mississippi State Department of Health (MSDH) compiles the relevant information for this chapter. In most cases, 2002 statistics are the most current available.

Natality Statistics

Live Births

Mississippi experienced a 1.8 percent decrease in live births from the previous year. In 2002, live births numbered 41,511, compared to 42,277 registered in 2001. Of these, 54.5 percent (22,620) were white and 45.5 percent (18,891) were nonwhite. Table III-1 provides birth data for the last five years.

A physician attended 97.4 percent of all in-hospital live births delivered in 2002 (41,407). Nurse midwife deliveries accounted for 854 live births, a decrease of 3.4 percent from the 884 reported in 2001. The nurse midwife deliveries were evenly divided between whites and nonwhites.

More than 98 percent of expectant mothers received some level of prenatal care in 2002. Thirteen percent (5,382) were in the second trimester before receiving care and two percent (821) were in the third trimester. These proportions have not changed significantly since the 1980's. White mothers usually receive initial prenatal care much earlier in pregnancy than do nonwhites.

More than 99 percent of the live births occurred in the 15 to 44 years age group. Births to unmarried women made up 47.1 percent (19,556) of all live births in 2002, 72 percent (14,090) were nonwhite. Mothers under the age of 15 gave birth to 193 children; 86 percent (166) were nonwhite.

Gender ratios of live births have remained unchanged for several years. In 2002, 51.2 percent (21,272) of the births were male and 48.8 percent (20,239) female. August, July, and October remained the peak months for births in 2002.

The birth rate in 2002 was 14.5 live births per 1,000 population; the fertility rate was 65.7 live births per 1,000 women aged 15-44 years. Table III-1 and Figures III-1 and III-2 provide information on birth and fertility rates by race for the past five years.

The MSDH uses birthweight and gestational age obtained from birth certificates to monitor fetal development. Low birthweight – less than 5.5 pounds (2,500 grams) at birth, and prematurity – gestation age less than 37 weeks, are factors relating to inadequate prenatal care, poor nutrition, lack of formal education, abject socioeconomic status, smoking, alcohol or drug abuse, and age of the mother. In 2002, 21.2 percent of births were either low birthweight or premature. These indicators differ markedly by race of the mother. Low birthweight was 84 percent higher among nonwhite mothers: 8.1 for whites against 14.9 percent for nonwhites. The rate of births that were either low

birthweight or premature was 54.1 percent higher among nonwhite mothers (17 percent for whites versus 26.2 percent for nonwhites). National studies have shown that teenagers are more likely to deliver low birthweight babies, and this is the case in Mississippi. In 2002, 12.8 percent of the births to teenagers were low birthweight, and 18 percent were premature. The low birthweight rate for white teens was 9.5 percent compared to a rate of 15 percent for nonwhites, creating a difference of 57.7 percent.

A total of 790 congenital malformations were reported in 2002 for a rate of 190.3 per 10,000 live births. Other musculoskeletal/integumental anomalies was the category most frequently reported at 87.9 cases per 10,000, followed by polydactyly/syndactyl/adactylia at 19.5 and malformations of the genitalia at 12.5. Since 1980, malformation of the musculoskeletal system remains at, or near, the top of the anomalies reported at birth in Mississippi. The rates were 31.8 cases per 10,000 for whites and 155.1 cases per 10,000 for nonwhites, an increase of more than 250 percent. It should be noted that congenital anomalies are not well reported in the birth certificate. Many of these are not detected for months or even years after birth. The birth defect registry, currently being implemented, will provide a much more accurate assessment of the incidence of congenital anomalies.

Table III-1
Live Births, Birth Rates, and Fertility Rates
1998-2002

	1998	1999	2000	2001	2002
Live Births	**42,917**	**42,678**	**40,075**	**42,277**	**41,511**
Percent Change	3.2	(0.6)	3.3	(4.1)	(1.8)
White	22,950	22,652	23,540	22,798	22,620
Nonwhite	19,967	20,026	20,535	19,479	18,891
Birth Rates[1]	**15.6**	**15.4**	**15.5**	**14.9**	**14.5**
White	13.3	13.1	13.5	13.1	12.8
Nonwhite	19.3	19.3	18.7	17.7	17.0
Fertility Rates[2]	**68.2**	**67.9**	**69.4**	**66.6**	**65.7**
White	62.9	62.3	65.0	63.0	63.0
Nonwhite	75.7	75.5	75.2	71.4	69.2

[1] Live Births per 1,000 total population
[2] Live Births per 1,000 females, 15 to 44 years old

Source: *Vital Statistics Mississippi, 2002*, Mississippi State Department of Health, Office of Health Informatics

Figure III-1

Birth Rates, Mississippi 1998 to 2002
(Live Births per 1,000 Population)

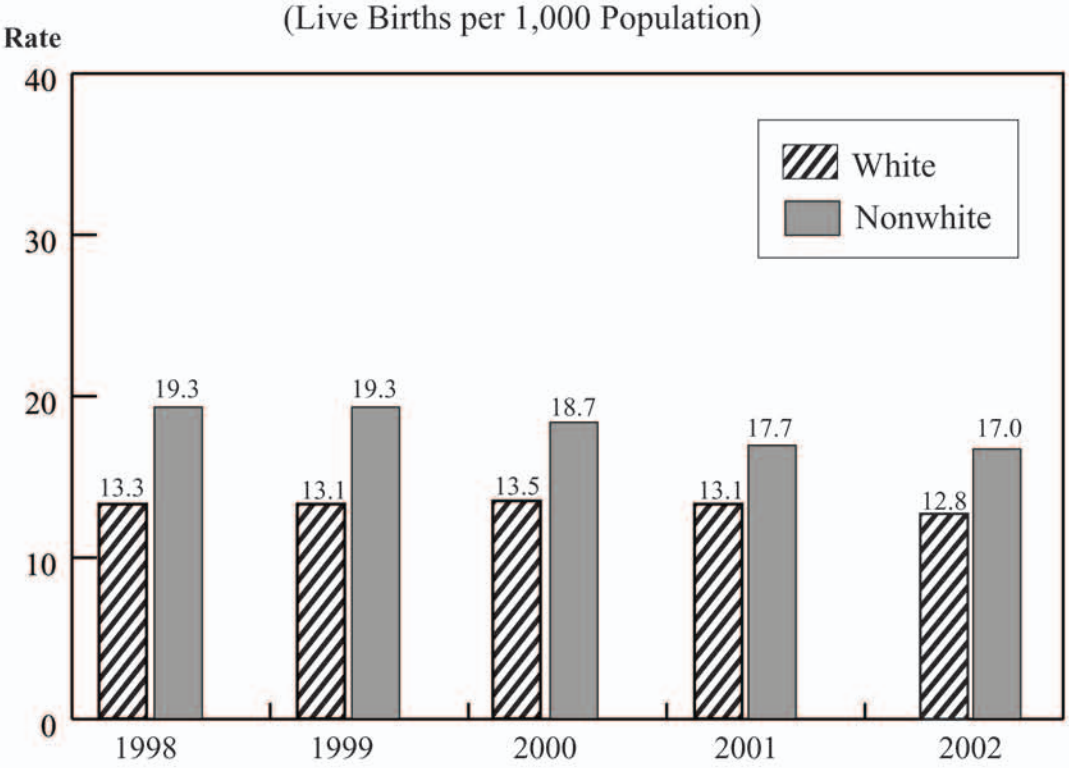
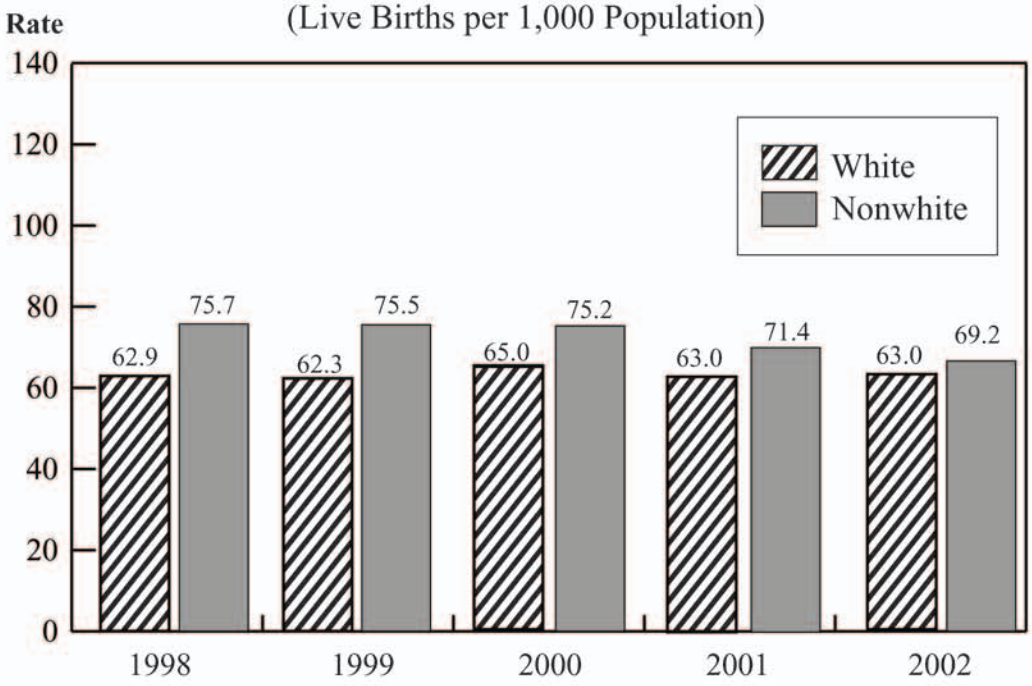


Figure III-2

Fertility Rates, Mississippi 1998 to 2002
(Live Births per 1,000 Population)



Babies Born to Mothers-At-Risk

Almost 73 percent of the live births in 2002 were associated with "at risk" mothers – 30,269 of the 41,511 total births, according to the Mississippi State Department of Health. The top ten counties for percentage of those born to mothers-at-risk are: Issaquena, Claiborne, Quitman, Sharkey, Tunica, Humphreys, Holmes, Coahoma, Wilkinson, and Sunflower. "At risk" factors include mothers:

- who are under 17 years of age or above 35 years of age;
- who are unmarried;
- who completed fewer than eight years of school;
- who had fewer than five prenatal visits;
- who began prenatal care in the third trimester;
- who have had previous terminations of pregnancy; and/or
- who have a short inter-pregnancy interval (prior delivery within 11 months of conception for the current pregnancy).

Mississippi experiences the highest percentages of births to teenagers in the nation, at 17.2 percent of all live births – a total of 7,152 children in 2002, slightly below the percentage reported in 2001 (17.8).

Mortality Statistics

Fetal Deaths

In 2002, Mississippi reported 394 fetal deaths, an increase from 376 reported in 2001, but a decrease from the 465 reported in 2000. The fetal death rate for nonwhites has been more than double that of whites for the past several years. In 2002 it was 14.4 per 1000 live births for nonwhites compared to 5.4 for whites.

Mothers age 40-44 had the highest fetal death ratio at 25.1 per 1,000 live births, followed by mothers under the age of 15, with a rate of 20.7. Next were mothers 30-34, having a rate of 11.4. The MSDH requires the reporting of fetal deaths with gestation of 20 or more weeks or fetal weight of 350 grams or more.

Maternal Deaths

Maternal mortality refers to death resulting from complications of pregnancy, childbirth, or the puerperium within 42 days of delivery. Nine such deaths were reported during 2002, a decrease from 12 reported in 2001. Some health care professionals believe that maternal deaths are under-reported.

Infant Deaths

Mississippi experienced 428 deaths of infants – children less than one year of age – during 2002, with 273 of those (63.8 percent) to non-white infants. The total included 281 neonatal deaths (within the first 27 days) and 147 postneonatal deaths (28 days to less than one year).

Disorders relating to short gestation and unspecified low birthweight (95); congenital malformations, deformity, and chromosomal abnormalities (59); sudden infant death syndrome (55); bacterial sepsis of newborn (17); and disease of the circulatory system (15) constituted the five leading causes of infant deaths, 56.3 percent of all infant deaths, in Mississippi during 2002. Table III-2 presents the number of infant deaths and death rates for selected causes by race.

Approximately 53 percent of the neonatal deaths were from disorders relating to short gestation and unspecified low birthweight (93), congenital anomalies (40), and bacterial sepsis of newborn (17). Fifty-five percent of the postneonatal deaths were related to sudden infant death syndrome (48), congenital anomalies (19), and disease of the circulatory system (14).

Infant Mortality Rate

Overall, the infant mortality rate in Mississippi has declined since 1980, although there have been variations from year to year. Figure III-3A shows the year 2002 mortality rate for nonwhite infants more than twice that for white infants – 14.6 deaths per 1,000 live births to 6.7 for whites. This difference is comparable to national figures. Many researchers believe that inadequate prenatal care among nonwhite mothers accounts for much of the disparity, as deficient care often results in low birthweight.

Figures 3B and 3C show the trend of neonatal mortality and post-neonatal mortality for the past five years. In 2002 nonwhite infants had a neonatal mortality rate of 7.5 deaths per 1,000 live births, and white infants had a rate of 3.4 deaths per 1,000 live births. The post-neonatal mortality rate was 7.1 for nonwhite infants and 3.3 for white infants.

In the five-year period 1998 to 2002, 37 counties in Mississippi had five-year average infant mortality rates above the five-year state average of 10.4 per 1,000 live births. None of the ten counties with the highest average infant mortality rates for the last five years had lower rates of live births to mothers-at-risk than did the state at large. Humphreys County reported the highest incidence of live births to teenagers and Jefferson Davis County reported the highest rate of low birthweight infants. Table III-3 lists the ten counties with the highest average rates for this period and which accounted for 8.3 percent of the state's total live births in 2002. Table III-4 presents 2002 data for these counties contrasted with the state.

Table III-2

Deaths and Rates for Infants Under One Year Selected Causes by Race

2002

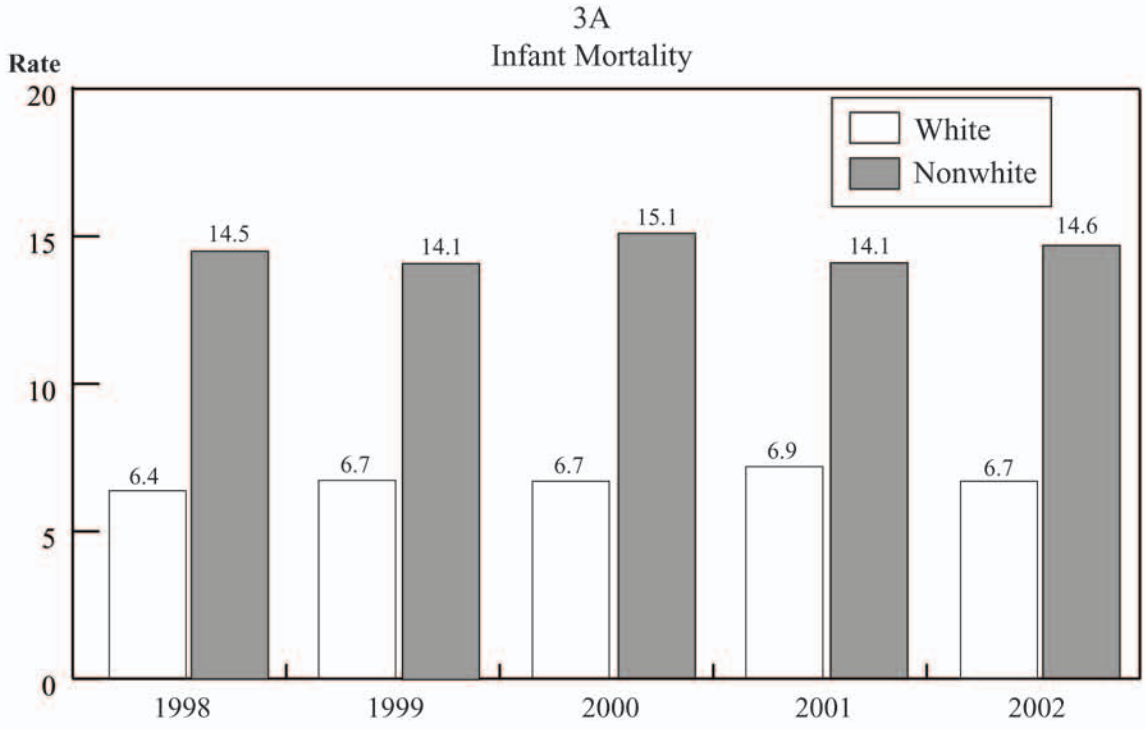
Area	Number			Rate[1]		
	Total	White	Nonwhite	Total	White	Nonwhite
All Causes	428	155	273	103.1	68.5	144.5
Bacterial sepsis	17	7	10	4.1	3.1	5.3
Septicemia	7	2	5	1.7	0.9	2.6
Diseases of circulatory system	15	9	6	3.6	4.0	3.2
Respiratory distress syndrome	11	3	8	2.6	1.3	4.2
Gastritis, duodemitis, and noninfective enteritis and colitis	5	2	3	1.2	0.9	1.6
Intrauterine hypoxia and birth asphyxia	4	3	1	1.0	1.3	0.5
Congenital Pnuemonia	5	4	1	1.2	1.8	0.5
Renal and other disorders of kidney	10	4	6	2.4	1.8	3.2
Congenital anomalies	59	22	37	14.2	9.7	19.6
Assault (homicide)	2	1	1	0.5	0.4	0.5
Maternal complications of pregnancy	14	7	7	3.4	3.1	3.7
Complications of placenta, cord and membranes	13	3	7	3.1	2.7	3.7
Birthtrauma	2	2	0	0.5	0.9	0.0
Disorders relating to short gestation and low birthweight	95	25	70	22.9	11.1	37.1
Intrauterine hypoxia and birth asphyxia	4	3	1	1.0	1.3	0.5
Pulmonary hemorrhage originating in perinatal period	5	1	4	1.2	0.4	2.1
Neonatal hemorrhage	3	1	2	0.7	0.4	1.1
Neonatal necrotizing enterocolitis	9	2	7	2.2	0.9	3.7
Chronic respiratory disease	3	1	2	0.7	0.4	1.1
Sudden infant death syndrome	55	26	29	13.6	11.5	15.4
Accidents	11	4	7	2.6	1.8	3.7
Interstitial emphysema and related conditons	4	3	1	1.0	1.3	0.5
Atelectasis	5	2	3	1.2	0.9	1.6
All other causes	55	14	41	13.2	6.2	21.7

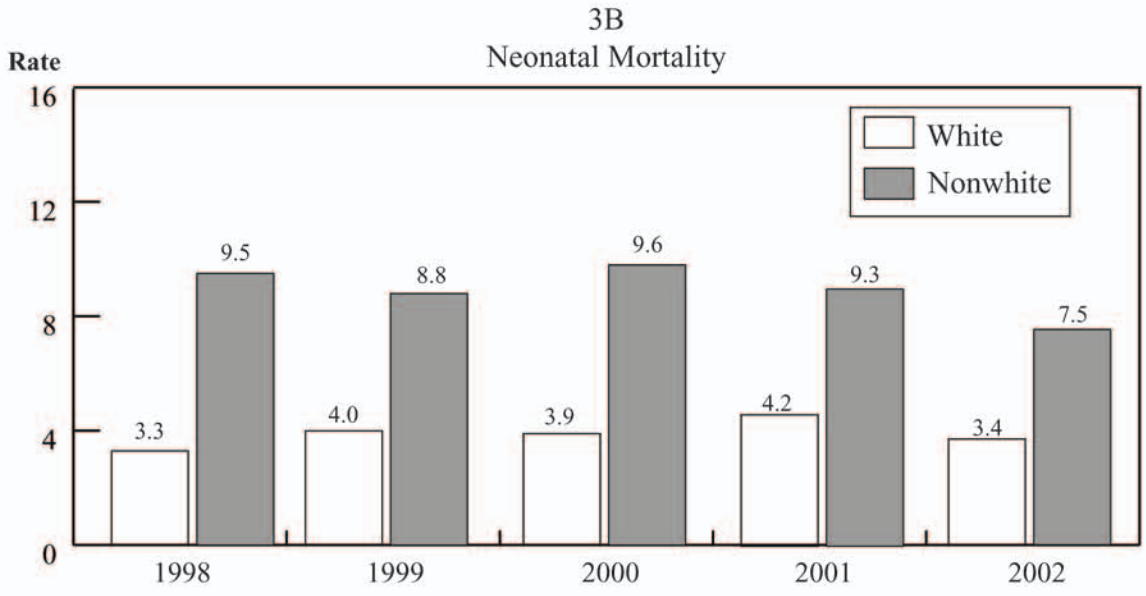
[1]Rate per 10,000 live births

Source: Vital Statistics Mississippi, 2002, Mississippi State Department of Health, Office of Health Informatics

Figure III-3

Mortality Rates Among White and Nonwhite Infants, Mississippi 1998 to 2002





3C
Postneonatal Mortality

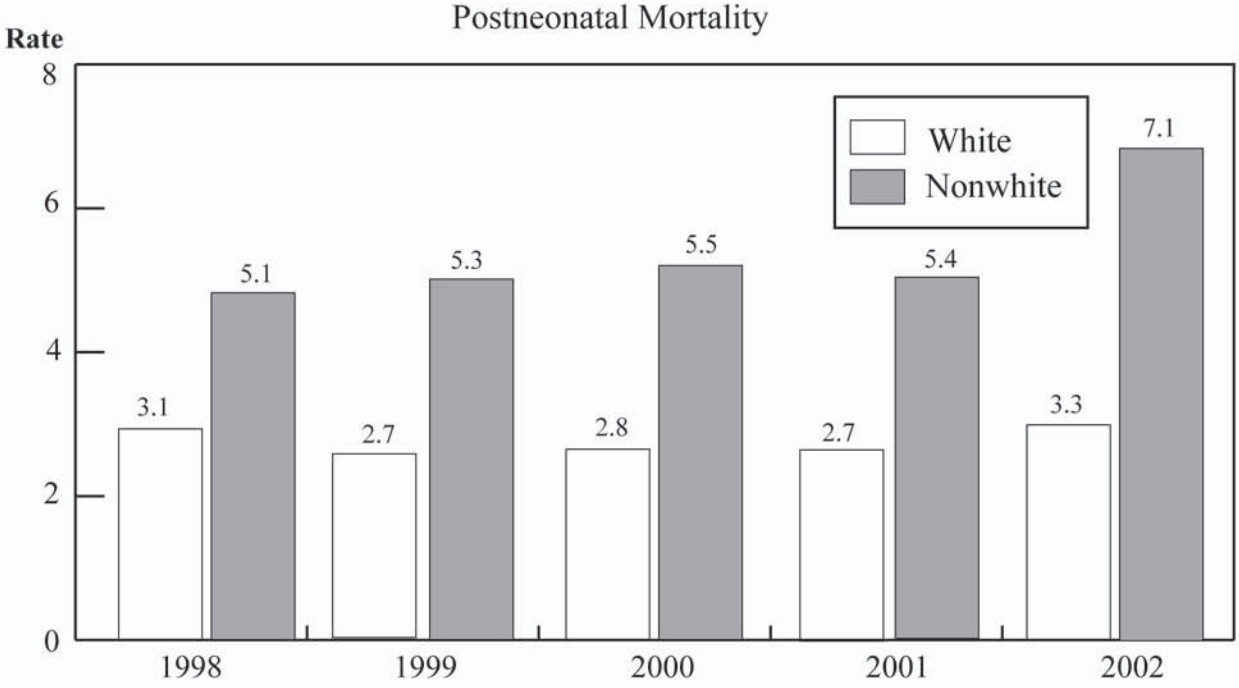


Table III-3
Mississippi Counties
Experiencing the Highest Infant Mortality Rate
1998 to 2002 (5-Year Average)

State/County	Rate[1]		
	Total	White	Nonwhite
Mississippi	**10.4**	**6.7**	**14.6**
Montgomery	27.0	11.7	38.0
Tunica	22.2	14.8	23.5
Noxubee	22.0	3.9	27.6
Copiah	16.8	8.0	22.9
Coahoma	15.7	6.3	17.6
Sunflower	15.6	5.8	18.1
Holmes	15.3	4.5	16.6
Scott	14.9	14.7	15.2
Clay	14.3	7.5	17.5
Claiborne	14.0	13.5	14.0

[1]Rate per 1,000 births
Source: Vital Statistics Mississippi 2002, Mississippi State Department of Health, Office of Health Informatics

Table III-4

Selected Data for Counties in Mississippi Having the Highest 5-Year Infant Mortality Rates

2002

State/County	Births to Mothers at Risk		Births to Teenagers		Low Birthweight Births	
	Number	Rate [1]	Number	Rate [1]	Number	Rate [1]
Mississippi	**30,269**	**729.2**	**7,152**	**172.3**	**4,644**	**111.9**
Montgomery	118	776.3	32	210.5	17	111.8
Tunica	182	910.0	38	190.0	26	130.0
Noxubee	144	742.3	29	149.5	31	159.8
Copiah	312	766.6	90	221.1	57	140.0
Coahoma	441	873.3	133	263.4	74	146.5
Sunflower	403	872.3	122	264.1	64	138.5
Holmes	301	887.9	82	241.9	48	141.6
Scott	350	783.0	76	170.0	52	116.3
Clay	246	764.0	58	180.1	38	118.0
Claiborne	157	934.5	30	176.8	20	119.0
Total	**2,654**	**830.4**	**690**	**260.0**	**427**	**133.6**

[1]Rate per 1,000 live births in the specified area

Source: Vital Statistics Mississippi, 2002, Mississippi State Department of Health, Office of Health Informatics

Deaths and Death Rates

There were 28,765 deaths reported in 2002, for a death rate of 10.0 per 1,000 population. The largest proportion of deaths occurred among whites aged 65 and older, at 49.5 percent (14,244) of the total. Non-whites in the same age group accounted for 19.5 percent (5,614).

Deaths among white males more than doubled that of females in the age group 15-44, with 813 males versus 433 females. The ratio of nonwhite males to nonwhite females in the same category was 1.6 to 1.0. The overall death rate of females to males was one to 1.02. The following section discusses the cause of death for specific age groups.

Age-adjusted death rates allow comparisons between populations of differing age distributions. For the purpose of the *State Health Plan,* the age-adjusted death rate is the United States population in 2000. Table III-5 shows the Mississippi age-adjusted death rates for 2002. The total age-adjusted rate was 10.7 per 1,000 population: 9.7 per 1,000 whites and 12.1 per 1,000 non-whites.

Table III-5
Age-Adjusted Death Rates[1]
by Age and Race in Mississippi
2002

	Number			Rate[1]		
Age Group	**Total**	**White**	**Nonwhite**	**Total**	**White**	**Nonwhite**
Total Deaths	28,765	19,168	9,597			
Crude Rates				10.0	10.9	8.6
Age Adjusted Rates				10.7	9.7	12.1
Age Specific Deaths and Death Rates						
Under 1	428	155	273	9.7	6.8	12.8
1-4	72	30	42	0.4	0.3	0.5
5-9	65	19	46	0.3	0.2	0.5
10-14	81	35	46	0.4	0.3	0.4
15-24	512	270	242	1.1	1.1	1.2
25-34	661	323	338	1.7	1.4	2.2
35-44	1,277	653	624	3.1	2.5	4.0
45-54	2,336	1,304	1,032	6.1	5.2	7.8
55-64	3,471	2,132	1,339	13.2	11.1	18.9
65-74	5,282	3,662	1,620	28.4	26.4	34.3
75+	14,576	10,582	3,994	91.1	89.7	94.8
Unknown	4	3	1	***	***	***

[1] Deaths per 1,000 population in the specified group

Source: *Vital Statistics Mississippi, 2002*, Mississippi State Department of Health, Office of Health Informatics

Leading Causes of Death and Death Rates

Ten leading causes resulted in 80.4 percent of all deaths in Mississippi during 2002. Heart disease was the leading cause of death in both Mississippi and the United States. The death rate for the ten leading causes was more than 33.3 percent higher in the white population than the non-white population (8.8 and 6.6 per 1,000, respectively). Data on the leading causes of death is presented in Table III-6.

Cardiovascular disease (CVD), principally heart disease and stroke, is the leading cause of death in Mississippi and accounted for 41 percent of all deaths in 2001. Although commonly thought of as a condition of aging, CVD is responsible for a considerable amount of premature mortality; in 2001, one in five CVD deaths occurred in Mississippians under 65 years of age. African Americans have higher CVD death rates than whites, and men have higher rates than women. Three-quarters of Mississippians have at least one CVD risk factor (smoking, high blood pressure, high blood cholesterol levels, being overweight/obese, and lack of regular physical activity).

The mortality rate for malignant neoplasms was 231.8 per 100,000 for whites and 177.0 for non-whites. Cancer of the respiratory and intrathoracic organs was the most common cause of cancer deaths among both white and non-white males, followed by cancer of the digestive organs and peritoneum. Among females, cancer mortality varied according to race. In white females, death from cancer of the respiratory and intrathoracic organs ranked first, followed by cancer of the digestive organs and peritoneum and then breast cancer. In non-white females, cancer of the digestive organs and peritoneum ranked first, followed by cancer of the respiratory and intrathoracic organs and breast cancer.

Table III-6
Number of Deaths, Death Rates, Percent of Total Deaths, and Relative Risk for the Ten Leading Causes of Death
2002

Cause of Death	Number	Death Rate[1]	% of Total Deaths	Relative Risk
All Causes	23,127	805.3	80.4	0.8
Heart Diseases	9,020	314.1	31.4	0.8
Malignant Neoplasms	6,050	210.7	21.0	0.8
Cerebrovascular Diseases	1,918	66.8	6.7	0.8
Accidents	1,632	56.8	5.7	0.8
Emphysema and Other Chronic Pulmonary Diseases	1,372	47.8	4.8	0.3
Pneumonia and Influenza	798	27.8	2.8	0.6
Diabetes Mellitus	664	23.1	2.3	1.7
Nephritis, Nephrotic Syndrome And Nephrosis	581	20.2	2.0	1.4
Septicemia	566	19.7	2.0	0.3
Alzheimer's Disease	526	18.3	1.8	1.2
All Other Causes	5,638	196.3	19.6	1.0

[1] Per 100,000 Population
[2] Rate for nonwhites/rate for whites (i.e. nonwhites vs whites)
Source: *Vital Statistics Mississippi, 2002*, Mississippi State Department of Health, Office of Health Informatics

Table III-7

Five Leading Causes of Death by Age Group and Percent of Deaths by Age Group

2002

Age Group	Cause of Death	Number	Percent	Rate[1]
1 - 4	**All Causes**	72	100.0	0.4
	1. Accidents	37	51.4	22.4
	2. Congenital Anomalies	7	9.7	4.2
	3. Emphysema and other Respiratory Disease	3	4.2	1.8
	3. Homicides	3	4.2	1.8
	3. Malignant Neoplasms	3	4.2	1.8
5 - 14	**All Causes**	146	100.0	0.3
	1. Accidents	84	57.5	19.9
	2. Malignant Neoplasms	7	4.8	1.7
	2. Homicide	7	4.8	1.7
	4. Congenital Malformations and Deformations	6	4.1	1.4
	5. Emphysema and other Respiratory Disease	5	3.4	1.2
	5. Suicide	5	3.4	1.2
15 - 24	**All Causes**	512	100.0	1.1
	1. Accidents	255	49.8	56.4
	2. Homicide	72	14.1	15.9
	3. Suicide	56	10.9	12.4
	4. Heart Disease	25	4.9	5.5
	5. Malignant Neoplasms	18	3.5	4.0
25 - 44	**All Causes**	1,938	100.0	2.4
	1. Accidents	473	24.4	59.2
	2. Heart Disease	314	16.2	39.3
	3. Malignant Neoplasms	253	13.0	31.7
	4. Suicide	136	7.0	17.0
	5. Homicide	134	6.9	16.8
45-64	**All Causes**	5,807	100.0	9.0
	1. Malignant Neoplasms	1,755	30.2	272.5
	2. Heart Disease	1,635	28.2	253.9
	3. Accidents	334	5.8	51.9
	4. Cerebrovascular Disease	291	5.0	45.2
	5. Emphysema and Other Respiratory Disease	217	3.7	33.7
65 & Over	**All Causes**	19,858	100.0	57.4
	1. Heart Disease	7,027	35.4	2,029.4
	2. Malignant Neoplasms	4,014	20.2	1,159.3
	3. Cerebrovascular Disease	1,573	7.9	454.3
	4. Emphysema and Other Respiratory Disease	1,126	5.7	325.2
	5. Pneumonia and Influenza	694	3.5	200.4

[1]Deaths From All Causes per 1,000 Population: From Specific Causes per 100,000 Population

Source: Vital Statistics Mississippi, 2002, Mississippi State Department of Health, Office of Health Informatics

Table III-7 shows the five leading causes of death by age groups. Accidents were the leading cause of death for individuals less than 45 years of age; while malignant neoplasms led for individuals aged 45-64, followed by heart disease, which was also the leading cause of death for individuals aged 65 and older, followed by malignant neoplasms. National death rates from heart disease vary substantially by race and sex, with higher rates among men.

In the 15-24 year age group, 74.8 percent of all deaths were from external causes: accidents, homicide, and suicide. Motor vehicle accidents were associated with 54.9 percent of all deaths from accidents and were the primary cause of accidental death among all age groups, except those under age one. The mortality rate for motor vehicle accidents was highest among the nonwhite male population.

Morbidity Statistics

The term *morbidity* is loosely interchangeable with the terms *sickness, illness,* and *disease* (including injury and disability). Morbidity statistics (prevalence and incidence), therefore, measure the amount of non-fatal illness or disease in the population. *Incidence* measures how rapidly new cases of a disease are developing, whereas *prevalence* measures the total number of cases, both new and long-standing, in the population. Accurate, reliable morbidity data are more difficult and costly to collect, compared to mortality data. Incidence data are available only for cancer. Prevalence data are collected for a limited number of diseases and risk factors through the Behavior Risk Factor Surveillance System (BRFSS) survey and the Youth Risk Behavior Survey (YRBS). Hospital visit data in a limited geographic area are now being collected for asthma.

Cardiovascular Disease

Cardiovascular disease (CVD) includes coronary heart disease, stroke, complications of hypertension, and diseases of the arterial blood vessels. In addition to causing almost half of all deaths in Mississippi, CVD is the major cause of premature, permanent disability among working adults. Stroke alone disables almost 2,000 Mississippians each year. Overall, approximately eight percent of Mississippi adults (171,000 people) report having some kind of CVD, such as coronary heart disease, angina, previous heart attack, or stroke.

Several modifiable risk factors contribute significantly to CVD: smoking, high blood pressure, high blood cholesterol levels, sedentary lifestyle, and being overweight/obese. Three-fourths of adult Mississippians have at least one of these risk factors, and one-third of the population has at least two risk factors. In addition, diabetes is a major independent risk factor for CVD.

Smoking is the single most important modifiable risk factor for CVD. More than one-fourth (27 percent) of adult Mississippians are current smokers (BRFSS, 2002). This figure has been increasing since 2000, after staying constant for many years. Measures of tobacco use among Mississippi high school students are comparable to national figures: 66 percent have smoked cigarettes, compared to 58 percent nationally; 25 percent have smoked cigarettes during the past month, compared to 22 percent nationally; and 12 percent have smoked cigarettes on 20 or more of the past 30 days, compared to 10 percent nationally (YRBS, 2003).

The percentage of adult Mississippians reporting a high blood cholesterol level has changed little since 1990 and currently stands at about 31 percent (BRFSS, 2002). One-third of adult Mississippians have not had their blood cholesterol level checked within the past five years.

Mississippi has one of the highest rates of self-reported lack of regular exercise among U.S. adults: four out of five (80 percent) of adult Mississippians are not physically active on a regular basis (at least five days per week, for at least 30 minutes per day). Three out of five (60 percent) are sedentary (no regular exercise or only irregular exercise), and one out of three (33 percent) take no regular exercise whatsoever

(BRFSS, 2002). These figures have changed little since 1990, though there has been a slight improvement in recent years.

Among Mississippi students, all measures of physical activity are worse (higher) than the national average: 69 percent of Mississippi high school students (87,000 out of 128,000 students) were not enrolled in a physical education class, compared to 44 percent nationally; 77 percent did not attend a physical education class daily, compared to 72 percent nationally; and 47 percent did not participate in vigorous physical activity in the week prior to the survey, compared to 37 percent nationally (YRBS, 2003).

Obesity

Mississippi has had the highest rates of adult overweight and obesity in the nation for many years, and the rates have climbed steadily since 1990. No indication exists that these upward trends will level off any time soon. Overweight is defined as a body mass index (BMI) of 25 to 29.9, and obese is defined as a BMI of 30 or above. In 2002, 36 percent of adult Mississippians were overweight and 27 percent were obese (BRFSS, 2002).

Among public high school youth, the problem is similar. The frequency of overweight students in Mississippi is higher than the national average: 16 percent of Mississippi students are overweight, compared to 14 percent nationally. An additional 16 percent of Mississippi students are at risk of becoming overweight, compared to 15 percent nationally (YRBS, 2003). Mississippi ranks number two (second highest) in the nation for rates of overweight in high school students (YRBS, 2003). Overweight and obesity have become one of the state's most important and pressing public health problems, and the high and increasing rate of diabetes in the state is largely a consequence of the increasing rate of obesity.

Hypertension

Hypertension (high blood pressure) is a major risk factor for coronary heart disease (CHD) and heart failure, and it is the single most important risk factor for stroke. The high (and rising) prevalence is very likely an important reason for the high CHD and stroke mortality rates in the state. Mississippi is one of 11 states in the southeast region of the U.S. known as the "Stroke Belt"; this region has for at least 50 years had higher stroke death rates than other U.S. regions.

More than 644,000 adult Mississippians report having hypertension (BRFSS, 2002). This also is an important and serious public health problem in Mississippi – not only because of the high frequency of this condition in the population, but also because of the many problems related to treatment and control. Studies elsewhere have shown that many patients with hypertension are not receiving treatment, for various reasons, and that many of those who are being treated are not getting their blood pressures adequately controlled.

Diabetes

In 2002, approximately 180,000 Mississippians had diagnosed diabetes, and another 90,000 were estimated to have undiagnosed diabetes, for a total of 270,000 with this serious disease. The 2002 prevalence of diabetes in Mississippi was 8.6 percent; the state's prevalence ranked highest in the nation in 2000 (most recent national comparisons available), with a rate about 28 percent higher than the national average.

Approximately 1,700 Mississippians suffer significant complications related to diabetes each year. Diabetes is the primary cause of macrovascular disease, stroke, adult blindness, end-stage renal disease, and non-traumatic lower extremity amputations. Diabetes is an important risk factor for coronary heart disease, stroke, and various complications of pregnancy. More than 400,000 Mississippians are at risk of developing diabetes because of being overweight or having a sedentary lifestyle (BRFSS, 2002).

Asthma

Asthma is the sixth-ranking chronic condition in the nation and one of the most common chronic diseases in children. It is the number one cause of school absences caused by a chronic condition. Mississippi currently has no tracking systems in place for documenting actual asthma cases; the best estimates at this time are extrapolated from national estimates. The American Lung Association estimates 201,000 Mississippians have a history of asthma, with one-fourth to one-third being under age 18.

Recently the MSDH began collecting hospital visit data for asthma in the three-county Jackson metropolitan area (Hinds, Madison, and Rankin counties); statewide data are not yet collected. These data show marked white: nonwhite disparities at all ages. The overall "prevalence" rate of unduplicated hospital visits for asthma in 2002 was 1,125 per 100,000 (crude) and 1,110 per 100,000 (age-adjusted). Nonwhite females had the highest age-adjusted rate, 2.5 times that of white females, or 150 percent higher (1,767 versus 707). Nonwhite males had an age-adjusted rate 2.7 times that of white males, or 170 percent higher (1,380 versus 507).

Cancer

Each year, more than 12,000 Mississippians are diagnosed with cancer. To meet the needs for information resulting from these diagnoses, the MSDH established a Central Cancer Registry; data collection for the registry began in 1996. The registry collects data from hospitals, as well as pathology laboratories and physicians as needed, and serves as a comprehensive resource for statewide cancer data including type of cancer, location of cancer, and stage of the disease at the time of diagnosis. Accurate knowledge of cancer type and incidence will help health care providers to anticipate future treatment and recovery needs; develop early detection programs to detect cancer at an earlier, more treatable stage; and activate prevention programs to reduce the occurrence of the disease.

In order of frequency, the top five sites of cancer diagnosis for 2003 were lung, breast, prostate, colorectal, and bladder. Approximately 6,200 Mississippians died of cancer during 2003. Lung cancer is the most common cause of cancer death; much of this cancer is due to cigarette smoking.

Communicable Diseases

Tuberculosis

Mississippi has historically exceeded the national new case rate of tuberculosis each year. The state had 115 cases in 2003, with a new case rate of 4.7 per 100,000 population. Approximately 85 percent of the new cases were pulmonary tuberculosis. Tuberculosis was diagnosed two times as frequently in males as females. Of the 115 reported cases, 70 (60.9 percent) were non-white,45 (39.1 percent) were white.

Table III-8 lists the reported cases of selected communicable diseases for 2001-2003. ***Sexually transmitted diseases*** remain a public health problem in Mississippi, although syphilis rates have decreased in recent years. A total of 40 cases of early syphilis were reported in 2003, a decrease from the 48 cases reported in 2002. Mississippi's case rate has historically been several times higher than the national rate. The state had 6,328 cases of gonorrhea reported in 2003, a case rate of 211.53 per 100,000 population, using 2000 U.S. Census data. This statistic may indicate that the state also has a problem with non-reportable sexually transmitted diseases such as herpes and lymphogranuloma venereum.

Acquired Immunodeficiency Syndrome (AIDS) received designation as a legally reportable disease in July 1983. By 1990, AIDS had become the tenth leading cause of death in the United States. Individuals engaging in certain risky behaviors have greater risk of contracting AIDS. These behaviors include sharing needles and/or syringes, having unprotected sex (anal, oral, or vaginal), having multiple sex partners, having a history of sexually transmitted diseases, abusing intravenous drugs, and having sex with a person engaged in one of these risky behaviors. There were 416 new cases of AIDS and 452 cases of HIV reported in Mississippi in 2003.

Hepatitis A is caused by a virus primarily transmitted between individuals through fecal or oral contact or through oral contact with items contaminated by infected human fecal waste. Potential contributing factors include poor personal hygiene, poor sanitation, overcrowding, and fecal contamination of food and water. Another form of hepatitis, ***Hepatitis B***, is transmitted by percutaneous or permacosal exposure to infected blood or blood products, sexual intimacy, and inutero maternal-infant contact. The ***Hepatitis C*** virus is transmitted through percutaneous or permacosal exposure to infected blood, e.g. shared needles. There were 47 reports of Hepatitis A, 110 reports of Hepatitis B, and 50 reports of Hepatitis C in Mississippi during 2003.

Meningitis is an inflammation, usually due to infection of the piarachnoid and the fluid it contains. Infecting agents include viruses, bacteria, fungi, or parasites. The disease involves both the brain and the spinal cord; and in bacterial meningitis, the outcome is potentially fatal. Meningitis is more common in the first year of life. Infants less than one year old have an incidence rate 6.5 times higher than children one to four years old and 38 times higher than children five to nine years old.

Viral Meningitis, as the name suggests, is caused by a virus. It is usually self-limiting and seldom fatal. The incidence of meningitis usually peaks in the late summer and fall. Cases of meningitis increased from 49 in 2002 to 81 in 2003. Table III-8 shows the etiology of the 2000-2003 cases.

Salmonellosis is an infection caused by the ingestion of organisms from the *Salmonella* species. Symptoms of the disease are severe diarrhea, cramps, and fever. The MSDH received 1,041 reports of salmonellosis cases in 2003, an 11.7 percent decrease from the 1,180 cases reported in 2002.

Shigellosis has symptoms and modes of transmission similar to salmonellosis. The infection increased dramatically from a low of 63 reported cases in 1998 to 347 cases in 2002; then declined to 174 new cases in 2003.

Table III - 8

Reported Cases of Selected Communicable Diseases

2001 - 2003

Diseases	2001	2002	2003
Sexually Transmitted Diseases			
Primary and Secondary Syphilis	127	48	40
Other Syphilis	468	152	393
Chlamydia	11,564	11,816	12,193
Gonococcal Infections	7,589	6,860	6,328
Acquired Immunodeficiency Syndrome	390	421	416
Other HIV	466	491	452
Viral Hepatitis			
Type A	42	62	47
Type B	91	95	110
Type C (Non-A, Non-B)	22	91	50
Enteric Diseases			
Salmonellosis	910	1,180	1,041
Shigellosis	592	347	174
Campylobacter Disease	128	108	109
Central Nervous System Diseases and Other Invasive Diseases			
Viral Meningitis	109	49	81
Invasive Meningococcal Infections	20	20	24
Invasive H. Influenza Meningitis	2	3	4
Other Diseases			
Rocky Mountain Spotted Fever	8	11	10
Animal Rabies (bats only)	4	4	4

Source: Mississippi Provisional Morbidity Report, June 2003,
Mississippi State Department of Health

Occupational Injuries and Illnesses

The Mississippi Worker's Compensation Commission produces an annual report on work place injuries and illnesses using information compiled from accident report forms that employers must submit to the Commission. The report shows that work-related injuries and illnesses place significant demands on industry. Such information helps industry to focus on safe work practices and injury prevention through the implementation of safety programs.

Statistical highlights of the Commission's *2002 Annual Report of Occupational Injuries and Illnesses* (most recent available) are as follows:

- During 2002, 96 employees suffered fatalities.
- Employees sustained 13,586 work-related injuries or illnesses that resulted in absence from work for six or more work days during 2002.
- Injuries to females were reported less frequently than males, with 5,251 claims (38.7 percent).
- Strains remained the most common type of injury, with 4,563 claims (33.6 percent).
- Pain in the lower back (the part of the body most often affected) resulted in 2,222 claims (16.4 percent).
- Hinds County had the highest number of reported occurrences with 1,626 claims (12.0 percent).
- Injuries or illness associated with lifting accounted for 2,064 claims (15.2 percent).
- Major injuries or illnesses occurred on Monday more than any other day of the week with 2,567 claims (18.9 percent). April reports exceeded other months with 1,269 claims (9.3 percent), followed by August with 1,235 claims (9.1 percent), and January with 1,231 (9.1 percent).
- Controversial claims totaled 5,314 or 39.1 percent of claims filed.
- Insurance carriers and self-insurers paid a total of $386,387,246 in 2002: $168,748,747 by insurance companies and $117,638,499 by self-insurers.

The top five industries reporting work-related injuries and illnesses during 2002 were:

Industry	Number of Job-Related Injuries/Illnesses	Percentage of Total
Manufacturing	3,001	22.1
Services	2,959	21.8
Retail Trade	1,529	11.3
Construction	1,225	9.0
Transportation, utilities	915	6.7

Expectation of Life at Birth

Statistics show that the average life expectancy of a Mississippi baby born between 1989 and 1991 is 73.1 years. Life expectancy increased by 0.6 years during the previous decade. Racial differences in life expectancy have decreased, but differences in the life expectancy of the sexes have widened each decade.

White females have the longest life expectancy, while non-white males have the shortest. A white female can expect to live about 21 percent longer than a non-white male, a difference of more than eight years. If these rates prevail throughout their lifetimes, almost 95 percent of white females will reach age 50, compared to only 81 percent of non-white males.

Natural Increase

Natural increase (the excess of births over deaths) added an estimated 13,377 persons to Mississippi's population during 2002. The rate of natural increase for the year was 4.7 persons per 1,000 estimated population. Natural increase has declined since 1980, when the rate was 9.6 persons per 1,000 estimated population, although this decline has fluctuated at times. In 2002 the rate of natural increase in the state was 2.3 persons per 1,000 estimated white population and 9.2 persons per 1,000 estimated non-white population.

Minority Health Status

Compared to all other ethnic groups, the *American Medical News* reports that African Americans experience higher rates of illness and death from virtually every health condition–from asthma to diabetes to cancer. African Americans in Mississippi face substantially higher rates of teen pregnancy, births to unmarried mothers, infant mortality, and other health status indicators than do white Mississippians. Some disparities which impact health care include economic and geographic factors.

Mississippi ranked 50th among the states in median family income at $39,520 in 2001 inflation-adjusted dollars. Sixteen percent of Mississippi families live below the poverty level, compared to 9.2 percent for the United States. Poverty dictates a standard of living that diverts all income to the essential needs of food, clothing, and shelter; therefore, it is difficult for the impoverished to afford good quality health care.

Officials estimate that 22 percent of Mississippians have no health insurance. Across all ethnic groups, lack of insurance results in weak connections to health care services. Uninsured persons, in fair or poor health, visit physicians less often than their insured counterparts; they are less likely to receive care needed to manage chronic conditions such as diabetes or high blood pressure. Uninsured children and adults are less likely to receive preventive health services or care for acute conditions.

The frequently cited explanation for the disparity in health care for African Americans is "lack of access to quality health care". The Henry J. Kaiser Family Foundation commissioned a synthesis of the literature on *Racial and Ethnic Differences in Access to Medical Care* in 1999. For most uninsured persons, low incomes and unemployment make insurance coverage unaffordable without substantial financial assistance. Overall, 57 percent of the uninsured are poor or near poor, with family incomes below 200 percent of the poverty level.

Rural areas, particularly those with a high concentration of poor blacks, often have very few medical resources. This fact further limits access to primary health care. As of July 2005, 65 counties or portions of counties in Mississippi were designated as health professional shortage areas for primary medical care.

Minorities are also under-represented in the health professions. Many medical schools have taken pro-active steps to increase minority representation. According to the Agency for Healthcare Research and Quality, *Strategies to Reduce Health Disparities, 2001 Conference*, Louisiana and Mississippi applications for minorities to enter medical schools declined 17 percent (2.3 times more than the national average). Even more alarming is that the percentage of applicants accepted declined 27 percent (seven times that of the national average). There was also a drop in minority matriculation by 26 percent (six times greater than the national average).

In 2003, only 6.77 percent of Mississippi's total active physicians were black and 6.6 percent were Asians. Based on an estimated non-white population of 1,157,960 (38.7 percent of the total 2005 estimated population), the state has one minority physician for every 1,291 non-white persons. Considering black physicians only, there is one black physician for every 2,969 non-white persons; 298 or 76.4 percent, of the state's black physicians were primary care physicians.

Key health problems across the life span of blacks in Mississippi include:

Infant Years: Infant Mortality

Childhood Years:	Accidents Cancer Dental Health Poor Nutrition
Teenage/Young Adult Years:	Teenage Pregnancy Drugs Motor Vehicle Accidents
Mature Adult Years:	Homicide Accidents
Elderly Years:	Heart Disease Stroke Hypertension Diabetes Cancer